50X1-HUM

CLASSIFICATION CONFIDENTIAL CONFIDENTIAL

CENTRAL INTELLIGENCE AGENCY REPORT

INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS CD NO.

COUNTRY USSR

DATE OF INFORMATION 1949

SUBJECT Economic - Fishing

HOW PUBLISHED Monthly periodical

DATE DIST. 3 Jan 1950

WHERE PUBLISHED Moscow

NO. OF PAGES 2

DATE PUBLISHED Oct 1949

SUPPLEMENT TO REPORT NO.

LANGUAGE Russian

SOURCE Rybnoye Khozyaystvo, Vol XXV, No 10, 1949.

THE ANALYSIS OF FISH LIVER AND ITS USE AS HOG FEED

FAT CONTENT IN COD LIVER

M. E. Kand

Cod catches in the Estonian SSR are, at present, third in importance among fish catches. In the future, however, they are expected to become second in importance following sprat.

An analysis of cod liver, begun by the chemist M. Al'dre, is now being continued by the Technological Laboratory, Estonian Division, All-Union Scientific Research Institute of Fish Economy and Oceanography. Nine series of experiments were held. One hundred unselected fish caught in the commercial fishing regions of the Finnish Bay area -- Prangli and Naissaar -- were taken at the same time. The weight composition and water and fat content of each fish liver were determined.

The average weight of the liver, in percent of the body weight, and the average fat content of the liver, in percent, are not constant and depend upon the time of year. The cod attain maximum size during February-April, drop to minimum size in July, and then begin to gain once more. This swing is connected with the maturation of gametes. According to gathered data, cod spawning in Estonian SSR waters occurs primarily in May.

The computed amount of possible fat content in the liver of 100 kilograms of cod, depending upon the time of year, is shown in the following table:

CONFIDENTIAL

Month	Fish wt (kg)	Liver wt (kg)	Fat Content in Liver (%)	Fat Yield (kg)
Feb	100	4.6	52.1	2.4
Apr	100	4.2	54.8	2.3
May	100	3.9	50.0	2.0
Jun	100	1.7	10.4	0.2
Aug	100	2.3	19.4	0.4
Sep	100	2.8	29.8	0.9
Nov	100	4.1	45.5	1.9
Dec	100	3.9	45.7	1.8

Some liver was found to be infected with nematodes. Examinations showed the following results:

Year	Healthy Liver	1-5 Parasites	6-10 Parasites	Over 10 Parasites
1945 (310 fish)	38.6	43.8	10.3	7.3
1947 (38 fish)	13.2	52.6	13.1	21.1
1949 (103 fish)	9.7	23.3	16.5	50.5

The unfavorable effect of the liver nematodes, caused by the larva of round worms (Contracoecum clavatum) is reflected in the total weight of cod, the weight of the liver, and the fat content of the liver.

The above results cannot be considered as conclusive since the work was not conducted strictly systematically; however, they do allow some conclusions to be gathered concerning fat content in cod liver.

FISH LIVER AS FEED FOR HOGS

D. I. Muganlinskaya

Agriculture in the city of Baku and its rayons is in urgent need of feed rich in vitamins for its livestock, especially for hogs who are fed exclusively on the waste products of flour mills and meat combines, sources poor in vitamin A. For this reason, experiments to find other sources were made.

Besides herring plants, Azerbaydzhan has fish plants which catch large quantities of chastik (sturgeon, pike-perch, sevruga sturgeon, red mullet, sheatfish). It was found that the waste products, especially liver, of these fish can be partially utilized for livestock breeding purposes.

Results of all the experiments showed that the weight of the liver was 1.18-2.76 percent of the entire fish weight. Vitamin A content was found to be richest in the liver of red mullet having well developed gametes. Pike-perch was next. On the average, one kilogram of fish liver examined contained 845,476 international units of vitamin A. This high vitamin A content is due almost entirely to the rich vitamin content of red mullet liver.

Pregnant, nursing, and breeding sows need 25,000 - 41,625 international units of vitamin A in their daily rations and stud hogs 41,625 - 58,330 international units. Following these calculations it was found that in order to fulfill their needs of vitamin A, each pig had to be given 20 - 50 grams of red mullet liver, 282-468 grams of pike-perch liver, or 670 - 1,116 grams of other fish liver. The liver could be given in salted form.

- E N D -

CONFIDENTIAL